

**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Guy BARET et al.

Group Art Unit: 1795

Application No.: 10/542,146

Examiner: X. TAI

Filed: July 13, 2005

Docket No.: 124521

For: PHOTOVOLTAIC MODULE COMPRISING EXTERNAL CONNECTOR PINS

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This request is being filed with a Notice of Appeal. Review of the October 15, 2008 Final Rejection is requested for the reasons set forth in the attached five or fewer sheets.

Should any questions arise regarding this submission, or the Review Panel believe that anything further would be desirable in order to place this application in even better condition for allowance, the Review Panel is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: January 14, 2009

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**REMARKS**

Claims 14-19 and 22-27 are pending.

The courtesies extended to Applicants' representative by Examiners Tai and Neckel at the interview held on December 18, 2008, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below, which constitute Applicants' record of the interview.

The Office Action rejects claims 14-16 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. This rejection is respectfully traversed for at least the following reasons.

First, the Office Action does not provide "reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed," as required by MPEP §2163.02. Rather, the Office Action provides that these terms "are not supported by the application as filed."

Second, the application's original disclosure does support the recited terms. Applicants note that there is no requirement to use language verbatim from the disclosure in the claims. Support for the recited terms may be either express, implicit or inherent (MPEP §2163.I.B). The following disclosure, for example, supports the recited features:

| Claim                                   | Feature                        | Supporting Disclosure                                                                                                    |
|-----------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 14 (and 15-19 and 22-27, by dependency) | "at least one first conductor" | "connector 11" (Figs. 2-8)                                                                                               |
| 14 (and 15-19 and 22-27, by dependency) | "second connector"             | "conducting wire 16" (Fig. 2) and "an additional male conductor" (Figs. 3, 4, 5 and 8; p. 8, lines 7 and 8)              |
| 15 and 16                               | "embossment"                   | The bump in connector 11 (Fig. 2; p. 7, lines 3-4) or connecting conductor 5 (Fig. 3; p. 17, lines 13-17); Figs. 4 and 8 |

Accordingly, reconsideration and withdrawal of the rejection of claims 14-19 under 35 U.S.C. §112, first paragraph, are respectfully requested.

The Office Action makes the following rejections under 35 U.S.C. §103(a): claims 14-16, 24, 26 and 27 are rejected over U.S. Patent No. 5,961,740 to Wambach ("Wambach 1") in view of U.S. Patent Nos. 4,220,462, 3,688,248 and 6,075,201 to Tourneaux, Modrey and Wambach ("Wambach 2"), respectively; claims 17, 18, 22 and 23 are rejected over Wambach 1, Tourneaux and Modrey in view of U.S. Patent No. 4,880,401 to Shima; claim 19 is rejected over Wambach 1, Tourneaux and Modrey in view of U.S. Patent No. 6,111,772 to Lee; and claim 25 is rejected over Wambach 1, Tourneaux and Modrey in view of U.S. Patent No. 3,721,948 to Brandt. These rejections are respectfully traversed for at least the following reasons.

First, the Office Action's application of the applied references as rendering obvious the recited "connecting conductor" feature is improper, because the Office Action fails to ascertain the differences between the applied art and the claims.

On page 5, the Office Action states that, "[a] connecting conductor is a well know [sic] module for connecting solar cell module [sic] to an external connector as is evident by the teaching of Wambach in another patent. " The Office Action says nothing further about the connecting conductor feature in claim 14.

In view of the above, the Office Action fails to fulfill its critical role in ascertaining the differences between the claimed invention and the prior art (MPEP §2141). It is not clear, based on the above-quote passage, whether the Examiner regards Wambach 1 as lacking the connecting conductor feature.

Second, Tourneaux does not disclose that an under-pressure is maintained within the internal volume that provides the electrical contact by pressure, as recited in claim 14.

The Office Action concedes that Wambach (the Office Action does specify Wambach 1 or 2) fails to disclose the recited under-pressure. The Office Action asserts that Tourneaux supplies the missing subject matter. The Office Action's assertion is incorrect.

Tourneaux refers to two different pressures, neither of which can reasonably be considered to correspond to the recited under-pressure maintained within the internal volume that provides the electrical contact by pressure. First, Tourneaux discloses a "negative pressure" in column 3, lines 14-21. This passage refers to the process described in more detail in columns 6 and 7 (Figs. 4 and 5). Column 3 later discloses that the "negative pressure produced in the evacuated space advantageously results in a residual pressure of less than 1000 Pascal." Thus, the disclosed "negative pressure" refers to a lack of pressure. Further, one of skill in the art would have understood that the disclosed "negative pressure" is merely a vacuum formed in chamber 60 where the solar cell is assembled (Fig. 5) and not an under-pressure maintained within the internal volume that provides the electrical contact by pressure, as recited in claim 14.

Second, Tourneaux discloses that a load (element 72 in Fig. 5) may be applied to a top subassembly (element 70 in Fig. 5) to hold two subassemblies together during the assembly process (col. 7, lines 6-10). The load applies a pressure on top of the subassemblies and does not maintain a pressure within the internal volume, as recited in claim 14. Tourneaux also does not disclose that the load provides any electrical contact by pressure, as further recited in claim 14. Because Tourneaux only discloses using the load during assembly, and not during operation, of the solar cell, Tourneaux is not concerned with ensuring that the load provides the electrical contact by pressure, as recited in claim 14. Nor does the Office Action point to any portion of Tourneaux as disclosing that the load is related to providing any electrical contact by pressure.

During the personal interview, SPE Neckel indicated that, because column 3 of Tourneaux discloses "negative pressure" during assembly, one of skill in the art would understand that the negative pressure is maintained within the solar cell, after the solar cell is sealed. This statement is incorrect. Column 7, lines 5-10 disclose that, after assembly, the

vacuum (e.g. "negative pressure") is released. One of ordinary skill in the art would not have understood that, just because a solar cell is assembled in a vacuum, therefore an under-pressure is maintained within the internal volume that provides the electrical contact by pressure, as recited in claim 14.

Third, there is no showing in the Office Action that one predictably would have replaced the connecting line 4 in Wambach 1 with the springy metal strip in Modrey with any reasonable expectation of success, for at least the following reasons.

Modrey discloses using the springy metal strip as a pin which is inserted into a pin-hole and maintains contact with the pin-hole through radial pressure (Figs. 5, 6, 10, 10a and 12). But neither Wambach 1 nor Wambach 2 disclose a corresponding pin-hole in which the springy metal strip 1 could be inserted.

During the December 18, 2008 personal interview, Examiner Tai asserted that, according to the rejection, connecting line 4 could be replaced by springy metal strip 1 from Modrey. The Office Action further asserts that the electrical lead 26 in Fig. 2 of Wambach 2, which is a thin wire, corresponds to the recited connecting conductor. Thus, the rejection asserts that springy metal strip 1 ("first connector") would have replaced connecting line 4 in Wambach 1, and then be electrically connected to the thin electrical lead 26 ("connecting conductor") of Wambach 2. In that case, however, there is no pin-hole in which to insert the springy metal strip 1. Accordingly, it is not clear that the springy metal strip 1 could have been electrically connected to the electrical lead 26, so that the deformation of the internal end of the first connector provides electrical contact by pressure, as recited in claim 14, with any reasonable expectation of success.

Further, Modrey discloses that its springy metal strip is used in printed circuit boards. The figures appear to show that the printed circuit boards are exposed to the air (Figs. 5, 7, 10 and 12). In contrast, Wambach 1 discloses a solar module in which connecting line 4 is

embedded in a "cast resin layer 28" that fixes the lug 2 in the intermediate space 22 (col. 3, lines 52-55; Fig. 2). There is no showing in the Office Action that the springy metal strip 1 would exert enough pressure in a cast resin layer, as opposed to air, so that a deformation of the internal end of the first connector provides the electrical contact by pressure, as recited in claim 14. Thus, Modrey and Wambach 1 would not have suggested that the spring metal strip 1 could have been included in the cast resin layer with any reasonable expectation of success (MPEP §2143.02.I).

Shima, Lee and Brandt are not applied in any manner that would overcome the above-identified shortfalls in the application of Wambach 1 and 2, Modrey and Tourneaux to the subject matter of claim 14.

In view of the above, the applied references would not have suggested the subject matter of claim 14. Thus, the combination of applied references would not have suggested the subject matter of the dependent claims by virtue of their dependency, as well as for the additional subject matter that they recite.

Accordingly, reconsideration and withdrawal of the obviousness rejections of claims 14-19 and 22-27 are respectfully requested.